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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,164	08/27/2003	David James Beale	4316-031612	4762
28289	7590	05/02/2006		
THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			EXAMINER TRAN, LEN	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/649,164	Applicant(s) BEALE ET AL.	
	Examiner Len Tran	Art Unit 1725	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5,8-11,13-17,19-45 and 62-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 62-65 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-11,13-17,19,20,27-30,35,37,39-45 and 66-69 is/are rejected.
- 7) ☒ Claim(s) 21-26,31-34,36 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-5, 8-10, and 66-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter (US 4,589,467).

Hunter discloses a casting machine comprising a source of molten metal, a rotatable annular ring, shaped to carry a plurality of ingot casting molds, with support structures comprising inner and outer rails. Hunter further discloses drive means for indexing the molds comprising gears and sprocket (abstract, figures, and col. 3, lines 55-65). The sprocket can be driven by AC motors.

Hunter fails to mention a casting machine to cast aluminum ingot. However, it would have been obvious to cast any kind of metal using Hunter's apparatus, since Hunter's apparatus is for casting metal.

3. Claims 11, 13-16, 28-30, 35, 37, 39-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter (US '467) as applied to claim 1 above, and further in view of Kikkawa et al (US 3,972,368).

Hunter disclose the claimed invention above, but fails to teach two pivoting crucibles and having a Y-shaped launder, and a skimming apparatus.

Kikkwawa et al disclose a titable crucible having a Y-shape launder (col. 3, lines 35-50) and a skimming apparatus for the purpose of scraping the dross off the molten metal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide titable crucibles with Y-shape launder with a skimming apparatus as taught by kikkwawa et al, in Hunter in order to scrape off dross on the metal.

4. Claims 17, 19-20 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter (US '467) as applied to claim 1 above, and further in view of Worswick (US 3,200,451).

Hunter disclose the claimed invention above, but fail to teach water sprayer located at the bottom of the annular ring.

However, Worswick discloses water sprayer underside of the mold for effective cooling. Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide underside cooling as taught by Worswick, in Hunter in order to have effective cooling.

*Allowable Subject Matter*

5. Claims 21-26,31-34, 36, 38, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 62-65 are allowed.

*Response to Arguments*

3. Applicant's arguments with respect to the above rejected claims have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

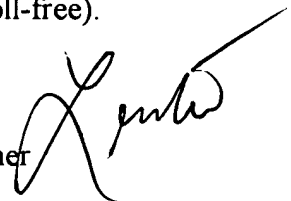
***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Len Tran  
Primary Examiner  
Art Unit 1725



April 28, 2006